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ABSTRACT

A pilot study is reported in which the programed materials of the Sullivan Reading Program, used over a 3-year period in an inner-city school, were compared with the traditional approach. In the fall of 1967 all entering grade-1 pupils of Rhoads Elementary School, Philadelphia, were administered the Metropolitan Readiness Test. Twenty-five children were placed in the experimental class; five other classes acted as the control. A group informal reading inventory (levels based on Scott Foresman Reading Series) was administered at the end of each school year during the 3-year study. At the end of the second year a higher percentage of the children in the control group than in the experimental group read at or above grade level on the group informal reading inventory. However, at the end of the third year this trend was reversed. No significant differences between groups were found on the Stanford Achievement Test at the end of the second year. Significant differences were found between the groups on the Iowa Test of Basic Skills at the end of the third year. Charts, tables, and references are included. (WB)

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AN EVALUATION OF THE

SULLIVAN READING PROGRAM

1967 - 1969

RHOADS ELEMENTARY SCHOOL

## OFFICE OF RESEARCH AND EVALUATION

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# AN EVALUATION OF THE

# SULLIVAN READING PROGRAM

# 1967 - 1969

# RHOADS ELEMENTARY SCHOOL

Report Prepared By
Dr. Louis Scheiner
District Research Coordinator
District One

Project Director
Mr. Frank Foti, Principal

Project No. 7005

Dr. Marechal-Neil E. Young
District Superintendent
District One

Dr. Irvin J. Farber
Manager
Field Research Services

Dr. John L. Hayman, Jr.
Executive Director

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## SUMMARY

The Sullivan Reading Program was used for three years at the Rhoads Elementary School.

### Objective

To compare the Sullivan Reading Program approach with "traditional" approaches on the basis of reading achievement.

### Procedures

Twenty-five entering first graders received three years of the Sullivan Reading Program. They were compared to the children in the other five classes. Pre and post measures were collected for both groups for each of the three years.

### Results

1. Children using the Sullivan Reading Program achieved significantly higher scores on the Total Language, Vocabulary and Reading subtests of the Iowa Tests of Basic Skills at the end of the third year.

2. A higher percentage of children using the Sullivan Reading Program read at or above grade book level in a Group Informal Reading Inventory at the end of the third year than children in other reading programs.

### Recommendation

This study should be replicated using a larger number of children and employing proper research controls.

TABLE OF CONTENTS


| | Page |
|---|---|
| SUMMARY | ii |
| TABLE OF CONTENTS | iii |
| INTRODUCTION | 1 |
| OBJECTIVES | 1 |
| METHODS AND PROCEDURES | 1 |
| RESULTS | 2 |
| DISCUSSION AND RECOMMENDATIONS | 6 |
| BIBLIOGRAPHY | 7 |

## 1. Introduction

In an effort to increase the reading achievement skills of "inner-city" children, the Rhoads Elementary School introduced the Sullivan Reading Program with one first year class in September 1967. The Sullivan Program spans a three-year period. It is based on the principles of programmed instruction.

The initial two and one-half months are spent in the development of a basic vocabulary and the acquisition of the skills necessary to use programmed material. Thus, the initial period is teacher oriented and directed. Afterward, the program is based on the philosophy of programmed learning wherein each child can progress according to his own rate of learning. It is expected that the brighter student will complete the program in a shorter period of time than the less able child.

Programmed learning is based on the principle of presenting information in small, "bite-sized" portions. The child is then asked a question about the information and is immediately told whether he is correct. By keeping the bits of information small enough, it is possible to have most of the children be right most of the time. A new concept or new subject matter is not presented until the individual has been well prepared for it by having thoroughly mastered responses that lead to the new ideas. If the learner gives an incorrect response, the learner is directed either to repeat the item, review the entire sequence, or is assigned special review exercises.

## 2. Objectives

The present pilot study was initiated to ascertain whether a class using the Sullivan Reading Program in an urban school over a three-year period would show greater gains in reading than control classes taught according to "traditional" methods.

## 3. Methods and Procedures

In the fall of 1967, all of the children entering the first grade at the Rhoads School took the Metropolitan Readiness Test. Twenty-five of the children were placed in the experimental class while the other five classes acted as the control classes. During the three years that the project was underway, eight of the experimental subjects left the school. New students were added the second and third years. Though adding new students tended to contaminate the design, it was not possible for the school to limit this group to 17 students. The scores of the new students were incorporated into the class mean score.

### a. Test Data Administered to Experimental and Control Groups

The following is a list of the tests that were used to measure achievement:

Year 1 - Informal Reading Inventory (June 1968)*

Year 2 - Stanford Achievement Test (May 1968)

Subtests: 1 - Word Meaning

2 - Paragraph Meaning

3 - Language

Informal Reading Inventory (September 1967; June 1968)*

Year 3 Iowa Tests of Basic Skills (June 1969)

Subtests: 1 - Vocabulary

2 - Reading

3 - Total Language

Informal Reading Inventory (September 1968; June 1969)*

*Levels based on Scott Foresman Reading Series.

4. Results

Group Informal Reading Inventory

For the comparison of the two groups on the Group Informal Reading Inventory administered at the end of each year, see Table 1.

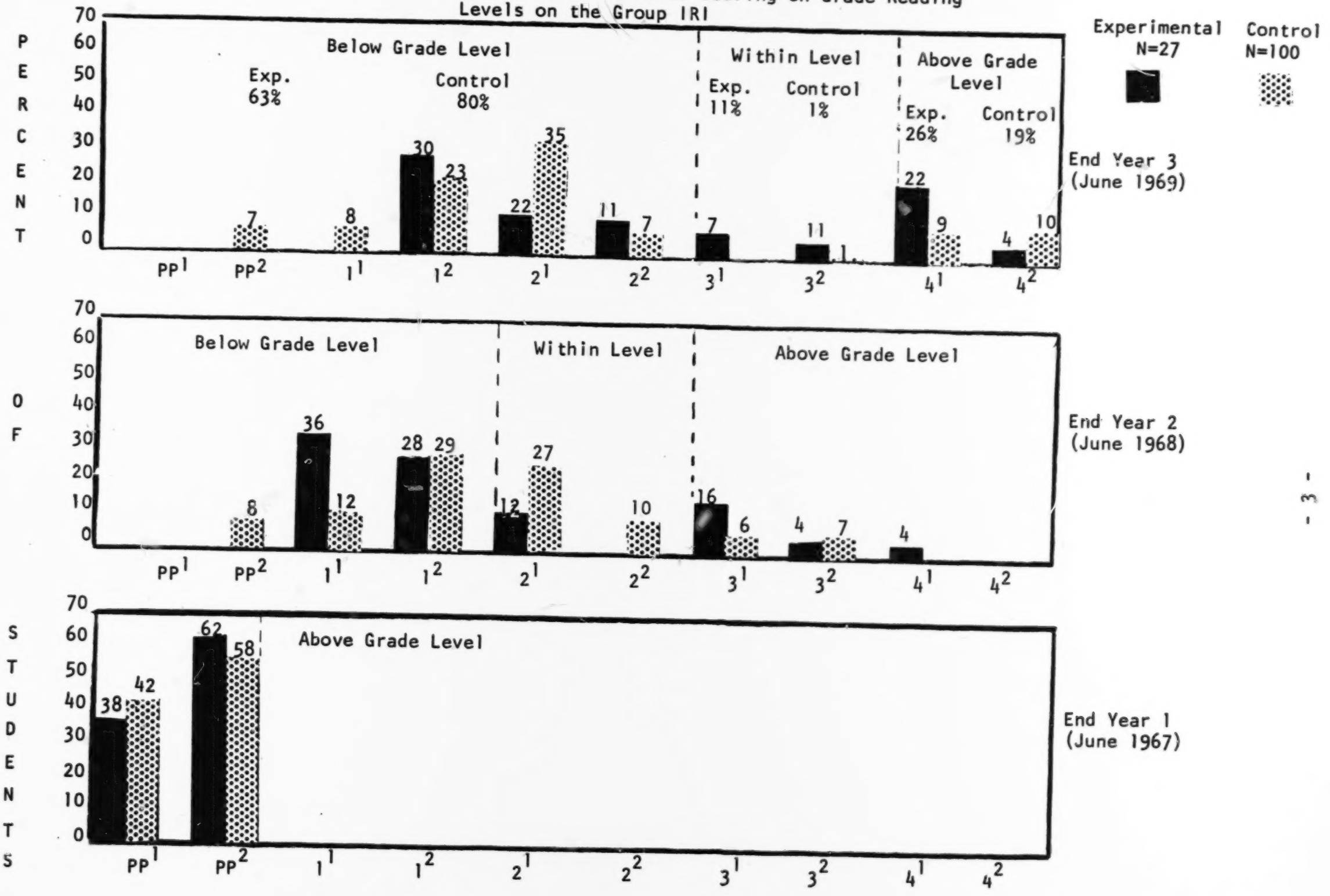
At the end of the second year, fifty-one percent of the children in the control group were reading within or above grade level, as compared with thirty-six percent of the children in the experimental group.

At the end of the third year, thirty-seven percent of the experimental group scored at the third year reading level and above as compared to twenty percent of the control group. Thus, a higher percentage of children using the Sullivan Reading Program than of the control group read at or above grade book level on the Group Informal Reading Inventory at the end of the third year.

In interpreting these results, one must bear in mind that several different teachers were involved in administering the group Informal Reading Inventory. No effort was made to determine inter-rater reliability.

Table 1

Percent of Experimental and Control Students Scoring on Grade Reading Levels on the Group IRI



The experimental and control groups were compared on the Stanford Achievement Tests at the end of the second year and on the Iowa Tests of Basic Skills at the end of the third year.

Results are presented in Tables 2, 3, 4 and 5.

Table 2

A Comparison of the Two Groups on Subtests of the Stanford Achievement Test (May 1968)

| | F ratio | p |
|---|---|---|
| Paragraph Meaning | 0.0545 | NS |
| Word Meaning | 0.0787 | NS |
| Language | 0.0011 | NS |

There was no significant difference between the two groups at the end of the second year on any of the subtest scores of the Stanford Achievement Tests (Table 2).

In Table 3, we note that the mean scores for both groups were alike.

Table 3

Average Grade Equivalent Scores of Experimental and Control Groups on Subtests of the Stanford Achievement Test (May 1968)

| | Paragraph Meaning | Word Meaning | Language |
|---|---|---|---|
| Experimental | 2.0 | 2.0 | 2.1 |
| Control | 2.0 | 2.0 | 2.1 |

On the three subtests of the Iowa Tests of Basic Skills, there were significant differences between the experimental and control groups. (Table 4)

Table 4

Comparison of Experimental and Control Groups on Subtests of the Iowa Tests of Basic Skills (May 1969)

| | F ratio | p |
|---|---|---|
| Total Language | 10.8482 | .01 |
| Reading | 9.3680 | .01 |
| Vocabulary | 7.1971 | .01 |

Now that we note that there is a statistical significance between the two groups, we must determine whether this difference is educationally significant.

A careful inspection of Table 5 shows the mean grade equivalent differences between the two groups favors the experimental group on all three subtest scores.

Table 5

Mean Grade Equivalent Scores of the Experimental and Control Groups on the Reading, Total Language, and Vocabulary Subtest Scores of the Iowa Tests of Basic Skills (May 1969)

| | Total Language | Reading | Vocabulary |
|---|---|---|---|
| | Mean Score $\bar{X}$ | Mean Score $\bar{X}$ | Mean Score $\bar{X}$ |
| Experimental | 3.5 | 2.9 | 2.8 |
| Control | 2.6 | 2.3 | 2.3 |
| Difference | .9 | .6 | .5 |

The experimental group's performance on the Total Language subtest was nine months better than the control group's. Since the Iowa Tests of Basic Skills is based on a ten month gain over a year, the gain of the Total Language score is nearly one full year. Similarly, we note that the experimental group had over a half-year gain in Reading and Vocabulary over the control group.

## Discussion and Recommendations

This study was carried out in one class in one school, and without proper research controls. Therefore, we cannot generalize from this study to any other group. We cannot overlook the possibility that the results that were found were due to differences in teachers and pupils, rather than differences due to the experimental treatment. A study with proper controls will be needed to answer these questions.

Other studies of the Sullivan Programmed Reading materials yield mixed results.

An earlier study (Hammill and Mattleman, 1969), conducted in Philadelphia public schools reported no significant differences between children using the Sullivan materials and a control group.

More positive results, however, were reported in the Denver Public Schools (1966). Children using the Sullivan materials obtained significantly higher reading achievement scores than the control group.

It should be noted that in the Denver study, a very intensive staff development program was conducted in the proper use of the Sullivan materials. The studies conducted in Philadelphia did not include this staff development component. Future users of these materials should, therefore, recognize the possibility that without special training, teachers may lack necessary skills and insights to make the program work. This is due to the fact that programmed instruction constitutes a new approach to dealing with content: the material is auto-instructional. Thus, the role and functions of the classroom teacher are different when programmed materials are employed. It appears, therefore, that a successful transition to this approach requires that some prior attention be given by the teachers to their new roles.

## Bibliography

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